

RE: WVDEP data on hydraulic fracturing source water

Harmon, Henry J <Henry.J.Harmon@wv.gov>

Thu 2/6/2014 10:38 AM

To: Fleming, Megan <Fleming.Megan@epa.gov>;

Cc: McFadden, Angela <McFadden.Angela@epa.gov>; Bergdale, Amy <Bergdale.Amy@epa.gov>;

Hi Megan,

It would probably be easiest to discuss these data over the phone to make sure I know exactly what you need. Feel free to call me at your convenience. My cell phone is (b) (6)

Thanks,

Jason

H. Jason Harmon, PhD

West Virginia Department of Environmental Protection
Division of Water and Waste Management
Water Use Section
601 57th Street, SE
Charleston WV 25304
(304) 926-0499 ext 1271

From: Fleming, Megan [mailto:Fleming.Megan@epa.gov]

Sent: Tuesday, February 04, 2014 3:14 PM

To: Harmon, Henry J

Cc: McFadden, Angela; Bergdale, Amy

Subject: WVDEP data on hydraulic fracturing source water

Dear Jason,

I'm working on EPA's study of the potential impacts of hydraulic fracturing on drinking water resources, and I'm interested in learning about the source of water for hydraulic fracturing in West Virginia. We would like to be able to capture the proportion of water that comes from groundwater, surface water, recycled wastewater, acid mine drainage, etc. Better yet, we'd like to show how the source of water for hydraulic fracturing operations may have changed over time.

The WVDEP website mentions a [FracWater reporting form](#). I see that WVDEP requires reporting if a company uses more than 750,000 gallons of water per well. I would like to know if this data is available, so maybe I could learn where exactly the water is coming from.

Generally, I have a good sense that the water in WV mostly comes from surface water sources, but so far it has been difficult to locate quantitative information.

Please let me know if we would be able to access this data.

Thanks,

Megan

Megan Fleming
Office of Science Policy
U.S. EPA Office of Research and Development
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460
(202)-564-6604

RE: WVDEP data on hydraulic fracturing source water

Fleming, Megan

Tue 2/25/2014 11:34 AM

To: Harmon, Henry J <Henry.J.Harmon@wv.gov>;

No worries. Thanks for your responsiveness and willingness to help out our research efforts.

Best,
Megan

Megan Fleming
Office of Science Policy
U.S. EPA Office of Research and Development
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460
(202)-564-6604

From: Harmon, Henry J [mailto:Henry.J.Harmon@wv.gov]
Sent: Tuesday, February 25, 2014 11:03 AM
To: Fleming, Megan
Subject: RE: WVDEP data on hydraulic fracturing source water

Oh goodness, my apologies. This slipped off my radar. I'll send you data within the hour.

From: Fleming, Megan [mailto:Fleming.Megan@epa.gov]
Sent: Tuesday, February 25, 2014 11:02 AM
To: Harmon, Henry J
Subject: RE: WVDEP data on hydraulic fracturing source water

Hi Jason,

I'm just checking in to see if you'll still be able to provide the raw data we discussed over the phone, and as referenced in my email below. I can assume you are extremely busy, but anything you can do to send us the data, I'd appreciate it. We would very much like to have it to include in our research report.

Thanks for your help on this.

Best,
Megan

Megan Fleming
Office of Science Policy
U.S. EPA Office of Research and Development
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460
(202)-564-6604

From: Fleming, Megan
Sent: Tuesday, February 11, 2014 3:48 PM
To: 'Harmon, Henry J'
Cc: McFadden, Angela; Bergdale, Amy; LeDuc, Stephen
Subject: RE: WVDEP data on hydraulic fracturing source water

Hi Jason,

Thanks for taking the time to answer my questions on the water resources management plan. I appreciate your willingness to share the raw data. As we discussed, I am interested in the following:

- Number of reported fractured wells by year (Table 2-11, page 107). If we could get the raw data here for 2009-2012, at the county level, or with API #s, or lat/longs that would be great.
- 2012 data to supplement the 2009-2011 data reported in Table 2-12, page 108: Statewide annual reported water withdrawals for horizontal wells (2009, 2010 and 2011) by source type in gallons.

You said you could provide the data in a Microsoft Access file. That is great, but if you could also provide it in Excel format as well, that would be much appreciated.

Thank you for your assistance.

Best,
Megan

Megan Fleming
Office of Science Policy
U.S. EPA Office of Research and Development
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

(202)-564-6604

From: Harmon, Henry J [<mailto:Henry.J.Harmon@wv.gov>]
Sent: Monday, February 10, 2014 9:38 PM
To: Fleming, Megan
Cc: McFadden, Angela; Bergdale, Amy
Subject: Re: WVDEP data on hydraulic fracturing source water

Sure, call my cell anytime after 9:30 or so.

H. Jason Harmon, PhD
Environmental Resources Analyst
West Virginia Department of Environmental Protection
Division of Water and Waste Management -Water Use Section
601 57th St, S.E.
Charleston, WV 25304

(304) 926-0499 ext. 1271

On Feb 10, 2014, at 5:35 PM, "Fleming, Megan" <Fleming.Megan@epa.gov> wrote:

Hi Jason,

I have spent some time reading through the water resources management plan and have a few follow-up questions. Would you have some time tomorrow (~15 minutes) to chat on the phone? I am interested in acquiring some of the raw data if that is still a possibility.

Thank you again for directing me to this report. It is going to be a valuable resource for us.

Best,
Megan

Megan Fleming
Office of Science Policy
U.S. EPA Office of Research and Development
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460
(202)-564-6604

From: Harmon, Henry J [<mailto:Henry.J.Harmon@wv.gov>]
Sent: Thursday, February 06, 2014 11:25 AM
To: Fleming, Megan
Subject: RE: WVDEP data on hydraulic fracturing source water

<http://www.dep.wv.gov/WWE/wateruse/WVWaterPlan/Pages/default.aspx>

From: Fleming, Megan [<mailto:Fleming.Megan@epa.gov>]
Sent: Tuesday, February 04, 2014 3:14 PM
To: Harmon, Henry J
Cc: McFadden, Angela; Bergdale, Amy
Subject: WVDEP data on hydraulic fracturing source water

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The WVDEP website mentions a [FracWater reporting form](#). I see that WVDEP requires reporting if a company uses more than 750,000 gallons of water per well. I would like to know if this data is available, so maybe I could learn where exactly the water is coming from.

Generally, I have a good sense that the water in WV mostly comes from surface water sources, but so far it has been difficult to locate quantitative information.

Please let me know if we would be able to access this data.

Thanks,
Megan

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Washington, D.C. 20460
(202)-564-6604

RE: DEP Frac Water Reporting Data Request

Fleming, Megan

Tue 2/25/2014 4:26 PM

To: Harmon, Henry J <Henry.J.Harmon@wv.gov>;

Hi Jason,

Thank you for sending the data. As we discussed over the phone, I’m interested in adding a line to this table (below) to show 2012 source water data. When separating the data for the different years, how did you interpret withdrawals with start/end dates in different years? For instance, into what year would you categorize a withdrawal that began 12/14/2009 and ended 1/19/2010?

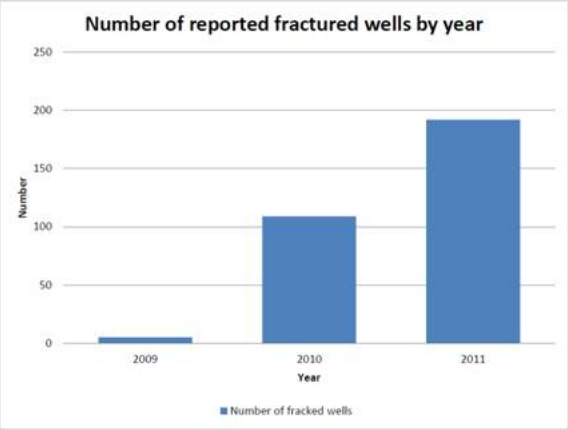
Table 2-12 Statewide annual reported water withdrawals for horizontal wells (2009, 2010 and 2011) by source type in gallons

Source Type						
Year	Commercial Broker	Ground- water	Lake/Pond/ Reservoir	Recycled Frac Water	Stream/River	Grand Total
2009	--	--	1,680,000	10,961,457	44,347,507	56,988,964
2010	103,952,562	--	11,965,142	35,052,994	464,786,339	615,757,037
2011	241,087,495	1,083,744	78,537,376	88,003,933	602,074,528	1,010,787,076
Grand Total	345,040,057	1,083,744	92,182,518	134,018,384	1,111,208,374	1,683,533,077

(From WVDEP water resources management plan, 2013)

We are also interested in knowing the total number of wells hydraulically fractured for 2011 and 2012 in WV. We would like to use the data that underlies this bar chart (below) and add the 2012 data to it. In your dataset I see injection begin/end dates, but no fracture dates. Is injection begin date meant to mean the same as the date of hydraulic fracturing, or is it different?

Table 2-11 Number of reported fractured wells per year



(From WVDEP water resources management plan, 2013)

Thank you for taking the time to answer my questions.

Best,
Megan

Megan Fleming
Office of Science Policy
U.S. EPA Office of Research and Development
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460
(202)-564-6604

From: Harmon, Henry J [mailto:Henry.J.Harmon@wv.gov]
Sent: Tuesday, February 25, 2014 11:38 AM
To: Harmon, Henry J
Subject: DEP Frac Water Reporting Data Request

Hi All,

Attached are the following data. If you have any questions organization or interpretation, don’t hesitate to ask. I’m sending this request to two different parties, so I’m trying to fulfill both requirements at the same time. Either of you may receive data you did not request. Again, let me know if you need any help.

Thanks,

Jason

H. Jason Harmon, PhD

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601 57th Street, SE
Charleston WV 25304
(304) 926-0499 ext 1271

RE: DEP Frac Water Reporting Data Request

Fleming, Megan

Wed 2/26/2014 10:16 AM

To: Harmon, Henry J <Henry.J.Harmon@wv.gov>;

Hi Jason,

Great. Thanks for your quick response. It definitely makes sense. From what I see here, I don't think we will need the Access database, but again I will follow up if we run into any additional questions. We will definitely keep you informed of how we use the data and will be sure to properly cite its source.

Thanks,
Megan

Megan Fleming
Office of Science Policy
U.S. EPA Office of Research and Development
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460
(202)-564-6604

From: Harmon, Henry J [mailto:Henry.J.Harmon@wv.gov]
Sent: Wednesday, February 26, 2014 10:06 AM
To: Fleming, Megan
Subject: RE: DEP Frac Water Reporting Data Request

Hi Megan,

I used the start date (12/14/2009 in your water source example). Also fracture = injection date (start date, more precisely).

Let me know if I can help more.

BTW, I didn't send the Access database for two reasons. One, I was sending this data request to another party, and two it contains some username/password information that I had to scrub. If you still want it, I can provide it, but I'll have to tinker with it first. I assure you though, I sent you all relevant data.

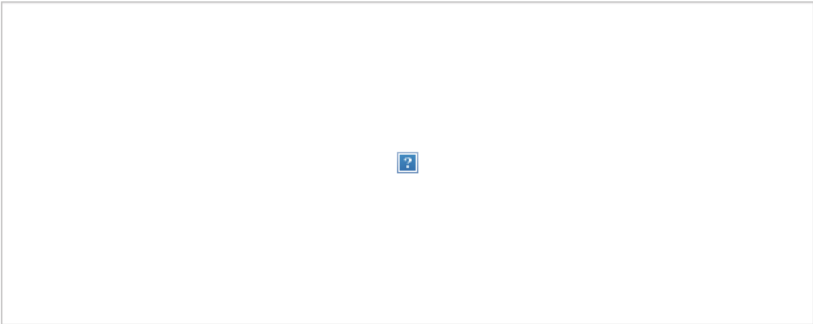
Thanks,

Jason

From: Fleming, Megan [mailto:Fleming.Megan@epa.gov]
Sent: Tuesday, February 25, 2014 4:27 PM
To: Harmon, Henry J
Subject: RE: DEP Frac Water Reporting Data Request

Hi Jason,

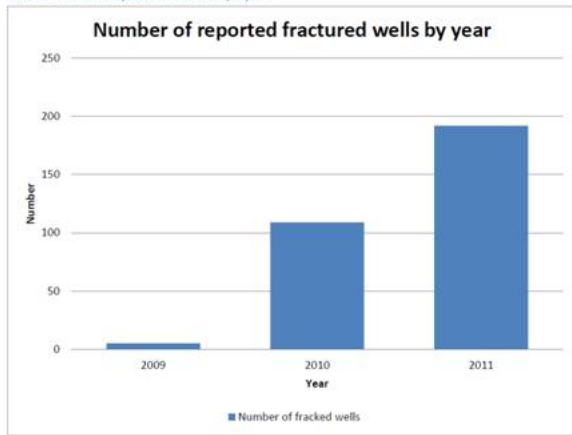
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(From WVDEP water resources management plan, 2013)

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(From WVDEP water resources management plan, 2013)

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From: Harmon, Henry J [<mailto:Henry.J.Harmon@wv.gov>]
Sent: Tuesday, February 25, 2014 11:38 AM
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Subject: DEP Frac Water Reporting Data Request

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Thanks,

Jason

H. Jason Harmon, PhD

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***** ATTACHMENT NOT DELIVERED *****

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image001.jpg
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contain a computer virus which could cause harm to EPA's computers,
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If the message sender is known and the attachment was legitimate, you
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receiving the revised Email, containing the renamed attachment, you can
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For further information, please contact the EPA Call Center at
(866) 411-4EPA (4372). The TDD number is (866) 489-4900.

***** ATTACHMENT NOT DELIVERED *****